Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
to Ensure Compatibility with Enhanced	)	
911 Emergency Calling Systems	)	

REPLY COMMENTS OF GTE

GTE Service Corporation on behalf of
its telephone and wireless companies

Andre J. Lachance
David J. Gudino
1850 M Street, N.W.
Suite 1200
Washington, D.C. 20036
(202) 463-5276

THEIR ATTORNEYS

March 17, 1995

TABLE OF CONTENTS

SUMMARY

GTE believes that the Commission's role in this proceeding should be to adopt rules requiring wireless service providers to implement, in the short-term, enhanced 911 capabilities that are both technologically feasible and cost-effective. GTE believes that, in the long-term, the Commission should adopt policies that foster cooperative efforts among the interested parties in an effort to develop more advanced 911 features. GTE asks the Commission to adopt in this proceeding a realistic set of enhanced 911 compatibility standards designed specifically for wireless carriers.

After the wireless industry, developers of new technology and PSAP community agree upon a realistic set of enhanced 911 features, the Commission should open a proceeding to consider the optimal way to fund implementation of such features.

GTE does not agree with parties arguing that mobile satellite service providers should be excluded from any wireless enhanced 911 compatibility standards. GTE supports applying any wireless enhanced 911 compatibility standards to all real-time voice CMRS, except air-ground service.

GTE agrees with parties arguing that carriers should not be required to implement 911 service enhancements that local safety authorities will be unwilling or unable to use. The Commission must, in adopting any wireless enhanced 911 requirements, also address the issue of PSAP upgrades.

GTE notes that an overwhelming majority of commenters agree that state preemption is necessary to foster a standard nationwide 911 system. In

addition, GTE wholeheartedly agrees with parties asking the Commission to absolve wireless carriers of liability in connection with their delivery of 911 calls to public safety officials.

Upon further consideration, GTE has been persuaded that the Commission should eliminate the requirement that 911 service be provided only to service initialized handsets. Eliminating the service-initialization requirement will ensure that 911 calls are not delayed or blocked unnecessarily by the user validation process. GTE also asks the Commission not to adopt a rule requiring a particular dialing pattern for placing a 911 call.

The issues raised in comments provide further support for GTE's position that call priority, though a noble goal, cannot be implemented in one year. The Commission should maintain call priority as a goal, and require manufacturers, industry standards groups, and emergency services representatives to continue to work towards a call priority system.

With respect to the Commission's location information proposals, GTE supports amending stage one to require wireless service providers route 911 calls to the PSAP nearest the serving base station or cell site. With this change, GTE believes that wireless carriers can be capable of delivering cell site and sector information to the PSAP within one year of an order. Prior to adopting such a requirement, however, the Commission should re-evaluate the benefits of such a requirement in light of the technical problems identified by GTE and others.

With respect to stage two, several parties comment that the technology necessary to implement this requirement, once developed, may prove incapable of meeting the requirements of stage three. GTE suggests that the Commission should consider whether adopting a stage two requirement will help or hinder development towards the provision of more advanced location information.

Parties overwhelmingly agree that the technology necessary to enable wireless carriers to provide stage three has not advanced sufficiently for the Commission to adopt a stage three requirement. In light of these comments, there is no basis for adopting the stage three proposal at this time. In lieu of adopting stage three, the Commission should consider, in a future proceeding, other proposals raised by parties for advancing the development and implementation of location identification capabilities.

Similarly, the comments filed in this proceeding do not justify adopting a common channel signaling requirement. GTE recommends that the Commission allow the industry to continue its work to resolve common channel signaling implementation issues.

Finally, GTE believes fears that certain existing arrangements may allow an incumbent to exploit its role as custodian of the ALI database in an anticompetitive fashion are unfounded, and should not be used in an attempt to justify major and costly design changes in the current 911 systems.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20054

In the Matter of	)	
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	CC Docket No. 94-102

REPLY COMMENTS OF GTE

GTE Service Corporation ("GTE") on behalf of its telephone and wireless companies hereby submits its reply comments regarding the Federal Communications Commission's ("FCC" or "Commission") Notice of Proposed Rulemaking ("NPRM" or "Notice") in the above-captioned proceeding.[1] In the Notice, the Commission proposes to amend its rules to adopt technical performance requirements that would ensure the compatibility of wireless services and private branch exchanges ("PBXs") with enhanced 911 emergency services. Nearly seventy parties filed comments in response to the Commission's Notice. GTE herein replies to many of those comments.

DISCUSSION

I. WIRELESS ISSUES

In its initial comments, GTE stated that the Commission's role in this proceeding should be to adopt rules requiring wireless service providers to implement, in the short-term, enhanced 911 capabilities that are both

---

[1] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, *Notice of Proposed Rulemaking*, CC Docket No. 94-102, RM-8143, FCC 94-237 (released October 19, 1994).

technologically feasible and cost-effective. GTE commented that, in the long-term, the Commission should adopt policies that foster cooperative efforts among the interested parties in an effort to develop more advanced 911 features and services, periodically monitor the progress of such efforts, and encourage the implementation of advanced features when they become technologically feasible and cost-effective.

The positions advocated by particular parties on the issues raised in this proceeding were as expected. Emergency services personnel justifiably want wireless enhanced 911 features and services available as soon as possible. Developers of location technology also favor an aggressive implementation schedule so that they will have a market for the products they are developing. Finally, wireless carriers support the development of enhanced 911 compatibility standards, but are concerned that technology may not yet be ready to meet an overly aggressive implementation schedule. Moreover, wireless carriers are concerned that implementation of some advanced 911 features will require enormous expenditures on technology that may not be capable of performing as the Commission, the emergency services community, and the public would like.

Notwithstanding the varying interests of commenters, several areas of consensus can be found. Most notably, there is near unanimous support of the Commission's decision to consider adopting rules that will make wireless services more compatible with existing enhanced 911 features. Based on these comments, this proceeding appears to have the potential to serve as the basis

for a cooperative effort among the emergency services providers, telecommunications industry, equipment manufacturers and software developers to develop improved wireless enhanced 911 capabilities.

In these comments, GTE will highlight for the Commission areas of consensus among the parties and comment on new issues and proposals raised by commenters. In so doing, GTE hopes to provide the Commission with a blueprint for future action in this proceeding.

A. General Implementation Issues

1. The Commission Should Focus on Implementing a Realistic Set of Enhanced 911 Features Developed for Wireless Carriers

The Commission's impetus for this proceeding appears to be a notion that providers of wireless services are not moving quickly enough to implement the enhanced 911 features currently available in the wireline context.[2] GTE contends, however, and other parties agree, that wireless carriers have not fully implemented enhanced 911 features because these features were designed for implementation in wireline telephone networks. There are numerous technological difficulties associated with implementing many of these enhanced 911 features in a wireless environment. Rather than focussing on a comparison between wireless and wireline capabilities, GTE asks the Commission to adopt

---

2 *NPRM* at 17. Note 38, in particular states that "[b]ased on our experience with cellular and other mobile radio services, it appears doubtful that enhanced 911 interface capability will be implemented voluntarily."

in this proceeding a realistic set of enhanced 911 compatibility standards designed specifically for wireless carriers.

In its comments, GTE argued that certain technical and operational limitations have hindered wireless compatibility with enhanced wireline 911 features.[3] Several commenters echoed these concerns. CTIA, for example, argued that both basic and enhanced 911 service were designed to provide access to emergency services for wireline subscribers.[4] CTIA contended that wireless service providers have had difficulty implementing enhanced features designed for wireline systems because of problems relating to the manner in which signals are sent and received in wireless networks, the lack of ubiquitous wireline 911 availability, and the inconsistent manner in which local authorities treat wireless 911 services.[5]

Motorola commented that "rather than seeking to develop the '. . . equivalent to dialing 911 from a wireline telephone . . .' (as expressed in the NPRM, at paragraph 34), it will be necessary to examine and utilize the features

---

3 GTE Comments at 3-6. GTE noted, in particular, that handset mobility, network configuration, and the existence of roamers all contributed to the difficulties confronting wireless carriers in implementing enhanced 911 capabilities.

4 CTIA Comments at 3.

5 CTIA Comments at 3-6. Bell Atlantic commented that mobile radio users have characteristics that differentiate them from wireline telephone users. For example, Bell Atlantic noted that the mobile nature of most wireless services makes it very difficult to create a stable database for each user. Also, unlike wireline service users, mobile services 911 callers in many cases are calling to report an emergency they have witnessed, rather than one in which they are the victim. Often, multiple wireless users will report the same emergency. Bell Atlantic Comments at 8-9. *See also* Ameritech Comments at 6-7; AT&T Comments at 17-20; TIA Comments at 21-23; U S West Comments at 6, n.5.

and capabilities of cellular, PCS, and other CMRS systems."[6] Motorola and other manufacturers of wireless telecommunications equipment agreed with wireless carriers that wireless enhanced 911 standards should not necessarily mirror the features available on wireline systems.[7]

Based on these comments, it is clear that technical and operational differences between wireless and wireline networks are the reason wireless services are not yet fully compatible with wireline enhanced 911 features. In order to make enhanced 911 features available to wireless users, the Commission should not, as it has proposed, adopt a set of performance standards based entirely on wireline 911 service. Rather, the Commission should, in this proceeding, focus on the capabilities of wireless service and establish a realistic set of 911 service enhancements specifically for wireless systems.

2. The Commission Should Consider Cost Issues Associated With Implementing Enhanced Wireless 911 Features in a Future Proceeding

In its Comments, GTE noted that the NPRM failed to consider cost issues associated with implementing the proposed 911 compatibility standards. GTE asked the Commission to carefully consider cost issues before implementing any compatibility standards for wireless 911 service.[8] Many other parties also

---

6 Motorola Comments at 4.

7 *See also* Ericsson Comments at 2.

8 GTE Comments at 31-32.

expressed concern about the cost of implementing improved compatibility with enhanced 911 features.

AT&T, for example, stressed that deployment of technology to provide enhanced wireless 911 compatibility should not be considered an ordinary cost of business for wireless service providers. Rather, it commented that such services should be funded by a federal/state cooperative mechanism.[9] Pacific Telesis asked the Commission to consider creating a national fund subsidized by wireless equipment sales to defray costs to carriers. NYNEX, on the other hand, commented that wireless 911 enhancements should be funded by state and local authorities.[10] Even C.J. Driscoll, who advocated an extremely aggressive implementation schedule for caller location systems, acknowledged that funding is a significant limitation to implementation.[11]

Thus, while parties did not necessarily agree on how enhanced 911 capabilities for wireless services should be funded, there was a consensus that funding issues must be considered. In their respective comments, Bell Atlantic and BellSouth asked the Commission to initiate a separate rulemaking proceeding to address how the costs of providing 911 service can be recovered.[12] GTE believes that its comments regarding cost issues and the

---

9 AT&T Comments at 42-43.

10 NYNEX Comments at 7. Several other parties asked the Commission to consider funding mechanisms or cost recovery issues relating to wireless 911 service enhancements. *See, e.g.,* Rural Cellular Comments at 9; PCIA Comments at 28.

11 C.J. Driscoll Comments at 2.

12 Bell Atlantic Comments at 11-12; BellSouth Comments at 20-21.

funding proposals made by others highlight the need for such a proceeding. GTE believes that, after the wireless industry, developers of new technology and PSAP community agree upon a realistic set of enhanced 911 features, the Commission should open a proceeding to consider the optimal way to fund implementation of such features.

3. Any Enhanced 911 Compatibility Standards Adopted Should Apply to All CMRS Providers, With Few Exceptions

GTE commented that the Commission should apply its enhanced 911 compatibility standards to all commercial mobile radio services ("CMRS") providers, with the exception of one-way paging and air-ground service. GTE argued that service enhancements should be made as widely available as possible in order to spread the benefits of 911 services, and that similar requirements should apply to competing service providers.[13] Most parties addressing this issue agreed with the Commission and GTE that providers of real-time voice CMRS should be bound by similar requirements.[14] Two parties, AT&T and PCIA -- to GTE's knowledge the only two addressing the issue -- also echoed GTE's request that the Commission exclude air-ground service.[15]

A few parties argued that an exception should be carved out for mobile satellite services ("MSS"). These parties argued, generally, that MSS will operate in a technically different manner than either cellular or PCS, and that a

---

13 GTE Comments at 7-10.

14 *See, e.g.,* Ameritech Comments at 8-9; Bell Atlantic at 8, n.7; BellSouth Comments at 11, n.13; Ericsson Comments at 2-3.

15 AT&T Comments at 20-21; PCIA Comments at 5-6.

location information standard designed for cellular or PCS likely will not work for MSS providers.[16] In particular, TRW argued that because MSS will be a global service with calls originating worldwide, it would be unreasonable to require such carriers to implement enhanced 911 features geared more to locating and routing local mobile 911 calls.[17] In addition, Motorola argued that MSS systems are designing and implementing an infrastructure which includes emergency communications capabilities, and that changes to the planned capabilities of MSS systems would be difficult.[18] Parties also contended that compliance with any Commission mandated 911 compatibility standards would be costly and could delay service initiation.[19]

While GTE is sympathetic to the concerns raised by MSS providers, the issues raised by these parties at best justify development of standards specifically for satellite-based services and an examination of cost issues.[20] Unlike air-ground and non-voice services, these parties cannot argue credibly that 911 will not be possible or valuable in an MSS environment. Indeed, AMSC has designed an MSS system that will provide 911 access to all subscribers,

---

16 Motorola Comments at 9-12; TRW Comments at 2-7.

17 TRW Comments at 2-6.

18 Motorola Comments at 9-12.

19 AMSC Comments at 7-8; Constellation Communication Comments at 1-3; Motorola Comments at 9-12; TRW Comments at 7.

20 Indeed, the issues raised by these parties do not distinguish MSS from other wireless services providers. Like MSS providers, cellular and PCS providers are concerned that current technology may not be able to deliver the advanced features envisioned by the Commission. Cellular and PCS providers are also concerned about the cost of implementation.

route such calls to the appropriate public service entities in the appropriate jurisdiction, and transmit ANI.[21]

Accordingly GTE does not believe that MSS providers should be excluded from any wireless enhanced 911 compatibility standards. GTE supports applying any wireless enhanced 911 compatibility standards adopted to all real-time voice CMRS, except air-ground service.

4. In Order for Most Enhanced 911 Features to be Compatible With Wireless Networks, PSAP Upgrades Must Be Made

GTE noted, in the context of its comments regarding automatic number identification ("ANI"), automatic location identification ("ALI") and re-ring/call-back, that upgrades to public safety answering point ("PSAP") equipment would be needed in order to facilitate enhanced wireless 911 compatibility.[22] The Commission does not appear to contemplate, however, requiring PSAP equipment upgrades as a prerequisite for, or in tandem with, implementation of enhanced wireless network capabilities.

Several parties, like GTE, commented that PSAP upgrades will be necessary in order for certain enhanced wireless 911 services to be useful.[23] In order to ensure that the necessary PSAP upgrades are made, US West and CTIA proposed a plan whereby wireless carrier implementation of enhanced 911 service capabilities would be triggered by a request for such features made by a

---

21 AMSC Comments at 6-7.

22 GTE Comments at 10-12, 15-24, 24-26.

23 *See, e.g.,* AT&T Comments at 27-29; ALLTELL Comments at 3-4; Bell Atlantic Comments at 7; CTIA Comments at 18-20; U S West Comments at 23.

public safety organization. Under the US West and CTIA proposals, no carrier would be obligated to expend resources to implement enhanced 911 capabilities unless reasonable assurances are made that the requesting public safety organization will use the capability and upgrade its equipment accordingly.[24]

GTE agrees with these parties that carriers should not be required to implement 911 service enhancements that local safety authorities will be unwilling or unable to use. The Commission must, in adopting any wireless enhanced 911 requirements, also address the issue of PSAP upgrades.

5. Most Parties Agree that the Commission Should Preempt any Contradictory State Enhanced 911 Requirements

In its Comments, GTE supported the Commission's proposal to preempt any inconsistent state 911 compatibility requirements. GTE notes that an overwhelming majority of commenters agree that state preemption is necessary to foster a standard nationwide 911 system.[25]

6. Wireless Providers Should Be Immune From Liability in Connection With Delivery of 911 Calls to Emergency Service Providers

GTE argued, in the context of its comments on location information requirements, that wireless service providers should not be liable for errors in location estimates.[26] Several other parties addressed this issue as well. Among them, CTIA argued that "it is long-settled public policy to allow a common carrier

---

24 U S West Comments at 20-24; CTIA Comments at 18-20.

25 *See, e.g.*, APCO Comments at 52; AT&T Comments at 41-42; BellSouth Comments at 20; PCIA Comments at 27.

26 GTE Comments at 20, 23.

to limit its liability for negligent acts in order to best promote carriers' continued willingness and ability to provide reasonably priced services to the public."[27] Bell Atlantic commented that "wireless service providers should [ ] be given explicit immunity from liability in connection with their delivery of calls to 911 service providers pursuant to the Commission's rules, state law or regulation, or standard industry practice."[28]

GTE wholeheartedly agrees with these parties and urges the Commission to absolve wireless carriers of liability in connection with their delivery of 911 calls to public safety officials.

B. Specific Implementation Issues

1. The Commission Should Require that Users of Wireless Services Be Able to Reach Emergency Services from Any Mobile Handset, Even if Not Service Initialized

In its comments on the issue of call availability, GTE supported the Commission's proposal to require, within one year of an order, that users of wireless services be able to reach emergency services from any service initialized handset by dialing "9-1-1". GTE noted that this capability would be limited by the availability of 911 service in the geographic area, and to the extent of the wireless network build-out.[29]

---

27 CTIA Comments at 20.

28 Bell Atlantic Comments at 11-12. *See also,* Ameritech Comments at 8; AT&T Comments at 40-41; PCIA Comments at 27-28.

29 GTE Comments at 12-13.

Upon further consideration of this issue, GTE has been persuaded that the Commission should eliminate the requirement that 911 service be provided only to service initialized handsets.

In all but a few of its markets, GTE can and does route 911 calls placed from an operational mobile handset, regardless of whether the handset is service initialized, to a PSAP, or, where no PSAP exists, to a law enforcement agency or other destination based on arrangements with state and local authorities. In those markets where this capability does not exist, callers on GTE's cellular networks receive a recorded message directing the caller to dial the operator or local police department. In these markets, GTE is actively working with local authorities to arrange to route such calls directly to emergency services personnel.

Motorola states in its comments that "a non-service initialized mobile unit is indistinguishable from a service initialized mobile unit until the validation process distinguishes between them."[30] Accordingly, Motorola contends that if all 911 calls are to be permitted without user validation, then the cellular system's user validation process must be suspended across the board, and it will not be possible to deny 911 access to non-service initialized mobile handsets.[31]

---

30 Motorola Comments at 21-22.

31 *Id.*

GTE agrees with Motorola's analysis. As noted above, it has been GTE's policy to route 911 calls to the appropriate authority without performing user validation. Accordingly, GTE does not deny access to 911 callers from non-service initialized handsets.

GTE firmly believes that its policy best serves the public interest and should be adopted as a requirement by the Commission. By eliminating the service-initialization requirement, the Commission will ensure that 911 calls are not delayed or blocked unnecessarily by the user validation process.[32]

2. The Commission Should Not Adopt a Dialing Standard for Placing a 911 Call

In the NPRM, the Commission proposed to require that access to emergency services personnel be available by dialing 9-1-1.[33] In response to this proposal, several parties asked the Commission to clarify that access to emergency personnel should be available by dialing "9-1-1" *plus "send".* AT&T, for example, argued that mobile handsets currently require users to press "send" after dialing the digits of call. It contended that there is no justification for requiring a different dialing pattern for 911 calls.[34] Similarly, APCO equated pressing "send" to lifting the handset on wireline telephones.[35]

---

32 Because other carriers block or restrict 911 calls, GTE cannot guarantee its customers that they will have 911 access in all situations or locations where cellular service exists.

33 *NPRM* at 20.

34 AT&T Comments at 24-25. *See also* Bell Atlantic Comments at 8, n.8; Ericsson Comments at 3.

35 APCO Comments at 36.

GTE agrees that the Commission should not adopt a rule that would preclude the use of mobile handsets that require users to press the "send" key in order to place a 911 call. Today most mobile handsets require dialing "9-1-1" and then "send" in order to place emergency calls. Requiring handsets to be capable of placing 911 calls without pressing "send" would force customers to replace existing handsets or pay for modifications.

GTE does not agree, however, that the Commission should adopt a rule requiring that customers dial "9-1-1" and then "send" in order to place emergency calls. GTE opposes this proposal because it would require a dialing pattern for emergency calls that is not possible on all mobile handsets. Some wireless handsets in use today do not have a "send" button.[36] To account for the existence of different handsets, the Commission should allow 911 calls to be placed in the manner contemplated by the type of handset the customer owns or operates.[37] GTE therefore does not believe that the Commission should adopt a rule requiring any particular dialing pattern for placing a 911 call.[38]

---

36 Indeed, GTE believes that, in the future, most phones will not have "send" buttons.

37 GTE understands that the Commission would like to mandate a uniform dialing standard in order to eliminate possible customer confusion. GTE believes, however, that customers are familiar with their own equipment and will understand how to place 911 calls on the devices they own or operate.

38 Should the Commission feel compelled to adopt some form of dialing standard, however, GTE suggests it adopt a rule stating that 911 calls be available to all callers by using a dialing pattern that would involve four or fewer keystrokes.

3. Parties Agree that 911 Priority Access is Not Possible in One Year

GTE stated in its comments that, although it supports the notion of call priority, implementation of this feature is not possible in one year. GTE commented that because the technology does not currently exist, equipment manufacturers and software developers would be in the best position to comment on when such a capability can be implemented.[39]

Most parties addressing the issue of call priority had serious reservations about the Commission's proposed implementation schedule for call priority. Many, like GTE, supported the goal of achieving a call priority capability in wireless networks, yet commented that implementation could not possibly be made in one year.[40] Some parties opposed any call priority requirement that would require a technology to be placed inside the handset.[41]

Parties also opposed the proposal as written because it would grant 911 calls higher priority access than other, equally important calls.[42] These parties note that 911 calls on wireless networks tend to come in clusters -- as many parties view the same event. They are concerned that priority access for 911 callers would overload wireless networks with multiple callers reporting the same

---

39 GTE Comments at 13-15.

40 AT&T Comments at 26; Bell Atlantic Comments at 9; Ericsson Comments at 4-5; Motorola Comments at 23; SBC Comments at 10.

41 AT&T Comments at 26. *See also* Pacific Telesis Comments at 4.

42 AT&T Comments at 26; BellSouth Comments at 18-19; Motorola Comments at 23-24; PCIA Comments at 9-10.

event, thus possibly preventing other high priority calls from getting through.[43] These parties suggest that several entities, including entities designated "National Security/Emergency Preparedness" callers and emergency services providers, must be assigned higher priority access than 911 callers.[44]

The issues raised in these comments provide further support for GTE's position that call priority, though a noble goal, cannot be implemented in one year. As GTE suggested in its comments, the Commission should maintain call priority as a goal, and require manufacturers, industry standards groups, and emergency services representatives to continue to work towards a call priority system.

4. Technological Roadblocks Stand in the Way of Implementation of Location Information Standards

In its comments on the issue of location information, GTE commented that serving cell and sector information -- the stage one requirement -- could be relayed to the PSAP operator within one year of an order.[45] GTE noted, however, that wireless carriers would have to make rather extensive switch, software and transmission facility upgrades in order to deliver this information. GTE also commented that PSAPs would have to be upgraded so that 10-digit ANI could be received at such locations.[46] With respect to the proposed stage

---

43 AT&T Comments at 26; Motorola Comments at 23-24; PCIA Comments at 10-11; Secretary of Defense Comments at 3-8.

44 Secretary of Defense Comments at 3-8; Motorola Comments at 23-24.

45 Under the stage one proposal, carriers would also be required to route the call to the PSAP nearest the mobile unit. *NRPM* at 24.

46 GTE Comments at 17-18.

two requirement, GTE commented that three years might be a reasonalble target for implementing a distance from cell site capability.[47] GTE argued, however, that because no best method of calculating this information had been developed, and because implementation would require extensive infrastructure upgrades, the Commission should not adopt a specific stage two requirement at this time.[48] Finally, GTE commented that implementation of a stage three capability would depend on technology that has not yet been developed.[49] Accordingly, GTE stated that it was premature to adopt the stage three location requirement.[50]

a. Stage One

Many parties agreed with GTE that while implementation of stage one might be possible in one year, serious obstacles must be overcome in order to develop a useful cell and sector location information capability. For example, parties concur with GTE that factors such as interference or terrain variations may result in the serving cell not being the closest cell site to the actual user location. These parties argue that, at minimum, the stage one requirement should be amended to require the call be sent to the PSAP nearest the serving

---

47 Under the stage two proposal, within three years of an order, the base station or cell site would be capable of relaying approximate location and the distance of the mobile unit from the receiving base station or cell site. *NPRM* at 24.

48 GTE Comments at 18-20.

49 Under the stage three proposal, five years after an order, wireless networks would be required to locate the mobile station in a three-dimensional environment within a radius of no more than 125 meters. *NPRM* at 25.

50 GTE Comments at 20-24.

cell site or base station.[51] Parties also comment that most PSAPs are not capable of receiving both location information and ANI. They state that base station identification would be sent to the PSAP in the form of "pseudo ANI" -- a non-dialable number that identifies the receiving base station and sector. Because most PSAPs are only capable of receiving seven or eight digits, however, they cannot receive both ANI and pseudo ANI information. As such, passing pseudo ANI information would likely preclude other, possibly more useful, information such as the originating telephone number.[52] Finally, parties argue that stage one may not be a logical step in the evolution towards stages two and three. They are concerned that investment in technology to meet stage one may quickly become useless and may actually retard the evolution towards more advanced location systems.[53]

GTE agrees with these parties' assessments of the obstacles to stage one implementation. GTE supports amending stage one to require wireless service providers to route 911 calls to the PSAP nearest the serving base station or cell site. With this change, GTE believes that wireless carriers can be capable of delivering cell site and sector information to the PSAP within one year of an order. Prior to adopting such a requirement, however, the Commission

---

51 AT&T Comments at 30-31; Ericsson Comments at 6-7; Motorola Comments at 12; Northern Telecom Comments at 49-51; PCIA Comments at 12-14; SBC Comments at 14-16.

52 AT&T Comments at 30-31; Motorola Comments at 13; PCIA Comments at 12-14.

53 CTIA Comments at 10-11; U S West Comments at 18-20.

should re-evaluate the benefits of such a requirement in light of the problems outlined above.

b. Stage Two

Most commenters, including the equipment manufacturers that would need to design and build the devices necessary to implement the proposal, had more serious problems with stage two. Several parties commented that signal strength is not an appropriate means of determining location.[54] Some, like GTE, expressed doubt as to whether the technology necessary for stage two could be developed and implemented in three years.[55] Parties also echoed GTE's concerns that stage two technology would be costly and may produce estimates of questionable accuracy,[56] and that triangulation methods may not always work in rural environments.[57] Moreover, many parties opposed the stage two proposal because, they claim, the technology that must be deployed to meet stage two may prove incapable of meeting the requirements of stage three. These parties argue that any intermediate steps in the caller location area should represent an evolution toward the ultimate target location information requirement.[58]

---

54 Ericsson Comments at 7-8; SBC Comments at 16-17.

55 CTIA Comments at 10; PCIA Comments at 14

56 AT&T Comments at 31; PCIA Comments at 14; SBC Comments at 16-17;

57 CTIA Comments at 10, n.13.

58 AT&T Comments at 31; CTIA Comments at 10-12; Motorola Comments at 13-14; PCIA Comments at 14-15; U S West Comments at 19-20.